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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/026,651	12/18/2001	Andrew Stamford	CN01367K	9881

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SCHERING-PLOUGH CORPORATION  
PATENT DEPARTMENT (K-6-1, 1990)  
2000 GALLOPING HILL ROAD  
KENILWORTH, NJ 07033-0530

EXAMINER

BALASUBRAMANIAN, VENKATARAMAN

ART UNIT	PAPER NUMBER
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1624

DATE MAILED: 12/15/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Applicati n No.

10/026,651

Applicant(s)

STAMFORD ET AL.

Examiner

Venkataraman Balasubramanian

Art Unit

1624

-- The MAILING DATE of this communication appears n the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-4,12-14,21-29 and 31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-4,12-14,21 and 31 is/are allowed.
- 6) ☒ Claim(s) 22 is/are rejected.
- 7) ☒ Claim(s) 23-29 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3. 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

Applicants' response, which included amendment to claims 1-4, 12-14, 22, 25, 27-29, and cancellation of claims 5-11, 15-20, 30, filed on 9/22/2003, is made of record.

Claims 1-4, 12-14, 21-29, and 31 are now pending.

### ***Information Disclosure Statement***

References cited in the Information Disclosure Statement (paper # 6) are made of record.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 22 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for eating disorder, does not reasonably provide enablement for any or all metabolic disorders including those yet to be discovered as due to neuropeptide Y Y5 receptor activity. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims for reasons of record. To repeat:

The instant claims, which are drawn to a method for treating metabolic disorders, are not adequately enabled for the range of disorders generically recited therein. From the reading of specification, it appears that the applicants are asserting that the embraced compounds because of their mode action, which involves antagonism of NPY

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receptor, would be useful for all sorts of metabolic disease. However, the applicants have not provided any competent evidence that the instantly disclosed tests are highly predictive for all the uses disclosed and embraced by the claim language for the intended mammal. That a single class of compounds can be used to treat all disorders generically embraced in the claims is an incredible finding for which applicants have not provided supporting evidence. Moreover many if not most of metabolic disorders due to inborn error are very difficult to treat as claimed herein. Note substantiation of utility and its scope is required when utility is "sufficiently unusual" "speculative", or not provided. See *Ex parte Jovanovics*, 211 USPQ 907, 909; *In re Langer* 183 USPQ 288 . Also note *Hoffman v. Klaus* 9 USPQ 2d 1657 and *Ex parte Powers* 220 USPQ 925 regarding type of testing needed to support in vivo uses. Next, applicant's attention is drawn to the Revised Interim Utility and Written Description Guidelines, at 64 FR 71427 and 71440 (December 21, 1999) wherein it is emphasized that 'a claimed invention must have a specific and substantial utility'. The disclosure in the instant case is not sufficient to enable the instantly claimed 'treatment effect solely based on the inhibitory activity disclosed for the compounds. The state of the art is indicative of the requirement for undue experimentation. In evaluating the enablement question, several factors are to be considered.

In evaluating the enablement question, several factors are to be considered. Note *In re Wands*, 8 USPQ2d 1400 and *Ex parte Forman*, 230 USPQ 546. The factors include: 1) The nature of the invention, 2) the state of the prior art, 3) the predictability or lack thereof in the art, 4) the amount of direction or guidance present, 5) the presence

or absence of working examples, 6) the breadth of the claims, and 7) the quantity of experimentation needed.

1) The nature of the invention:

The method of use claims are drawn to treatment of any and all metabolic disorders diseases, including those yet to be discovered. However, specification provides no support for treating all or any metabolic disorders/ diseases. Specification has not provided any evidence or nexus that because of the mode of action of the instant compound viz. antagonism of neuropeptide receptor Y5, the compound would be useful for treating all or any metabolic disorders.

2) The state of the prior art:

There are no known compounds of similar structure, which have been demonstrated shown to be useful for treating all or any metabolic diseases. For example, the notion that a compound could be effective against all or any metabolic diseases because of its in interaction with a single target in the instant case viz. NPY Y5 receptor, in general, is absolutely contrary to our current understanding of pharmacological basis of drug design and treatment of diseases. In fact a specific target is often chosen to treat a specific disease or that specific target related diseases. Furthermore, even the recent references do not support treatment of all metabolic disorders. For examples note a) Betancur et al., (TIPS Vol. 18, 372-386,1997) which reviews neuropeptide receptors and their antagonists, does not teach treatment of all or any disease. See pages 378-379. b) Wieland et al., (Expert Opin. Investig. Drugs 9(6): 1327-1346,2000, PubMed Abstract provided.) describes role of NPY Y1 and Y5

receptor antagonist for human obesity but does suggest for treating any or all metabolic diseases.

3) The predictability or lack thereof in the art:

As noted above, although there several prior art which teach similar compounds as viz. regulating the effect of neuropeptide receptor, they do not teach use of the compound disclosed for treating any or all disorders as claimed and hence there is no art predictability or assurance that instant compound would do so.

4) The amount of direction or guidance present:

Specification provides no guidance or direction as to how would one use the instant compound to treat all or any metabolic disorder due to NPY Y5 activity.

5) The presence or absence of working examples:

There are no working examples to show that how the instant compound could be used to treat metabolic disorders other than those stated above wherein neuropeptide Y is implicated as causative agent.

6) The breadth of the claim:

The breadth of the claim is broad enough to include treatment of any or all metabolic disorders including those yet to be discovered for which there is no pharmacological basis or showing in the specification.

7) The quantity of experimentation needed:

The quantity of experimentation needed would be an undue burden to one skilled in the pharmaceutical arts since there is inadequate guidance given to the skilled artisan for the many reasons stated above.

Thus, factors such as “sufficient working examples”, “the level of skill in the art” and “predictability”, etc. have been demonstrated to be sufficiently lacking in the instant case for the instant method claims.

This rejection is same as made in the previous office action. Applicants’ traversal to overcome this rejection is not persuasive. Although state of the art at the time of the instant invention lend support for eating disorders including obesity, there is no evidence or nexus that because of the mode of action of the instant compound viz. antagonism of neuropeptide receptor Y5, the compound would be useful for treating all or any metabolic disorders. Applicants’ should note that thrust of the rejection is treating any or all metabolic disorders embraced in the claim language and not specific disorders positively recited in the dependent claims.

#### ***Allowable Subject Matter***

Claims 1-4,12-14, 21, and 31 are allowed. Claims 23-29 and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Said claims would be allowed since specific species, composition and method of use embraced in these claims are not taught or suggested by the art of record or from a search in the relevant art area.

#### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication from the examiner should be addressed to Venkataraman Balasubramanian (Bala) whose telephone number is (703) 305-1674. The examiner can normally be reached on Monday through Thursday from 8.00 AM to 6.00 PM. The Supervisory Patent Examiner (SPE) of the art unit 1624 is Mukund Shah whose telephone number is (703) 308-4716.

The fax phone number for the organization where this application or proceeding is assigned (703) 308-4556.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1235.

  
Venkataraman Balasubramanian

12/10/2003